

FOREST EXCISE TAX -- ROAD SUMMARY SHEET

Region: SE

Timber Sale Name: Wahkiacus Heights Thinning Sale

Agreement Number: 30-076130

Excise Tax Applicable Activities

Construction: 330 linear feet

Road to be constructed (optional and required) but not abandoned

Reconstruction: 490 linear feet

Road to be reconstructed (optional and required) but not abandoned

Abandonment: 2580 linear feet

Abandonment of existing roads not reconstructed under the contract

Deactivation: 0 linear feet

Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 0 linear feet

Existing road to receive maintenance work (specifically required by the contract) prior to haul

Excise Tax Exempt Activities

Temporary Optional Construction: 0 linear feet

Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 0 linear feet

Optional roads to be reconstructed and then abandoned

New Abandonment: 0 linear feet

Abandonment of roads constructed or reconstructed under the contract

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 7/04)

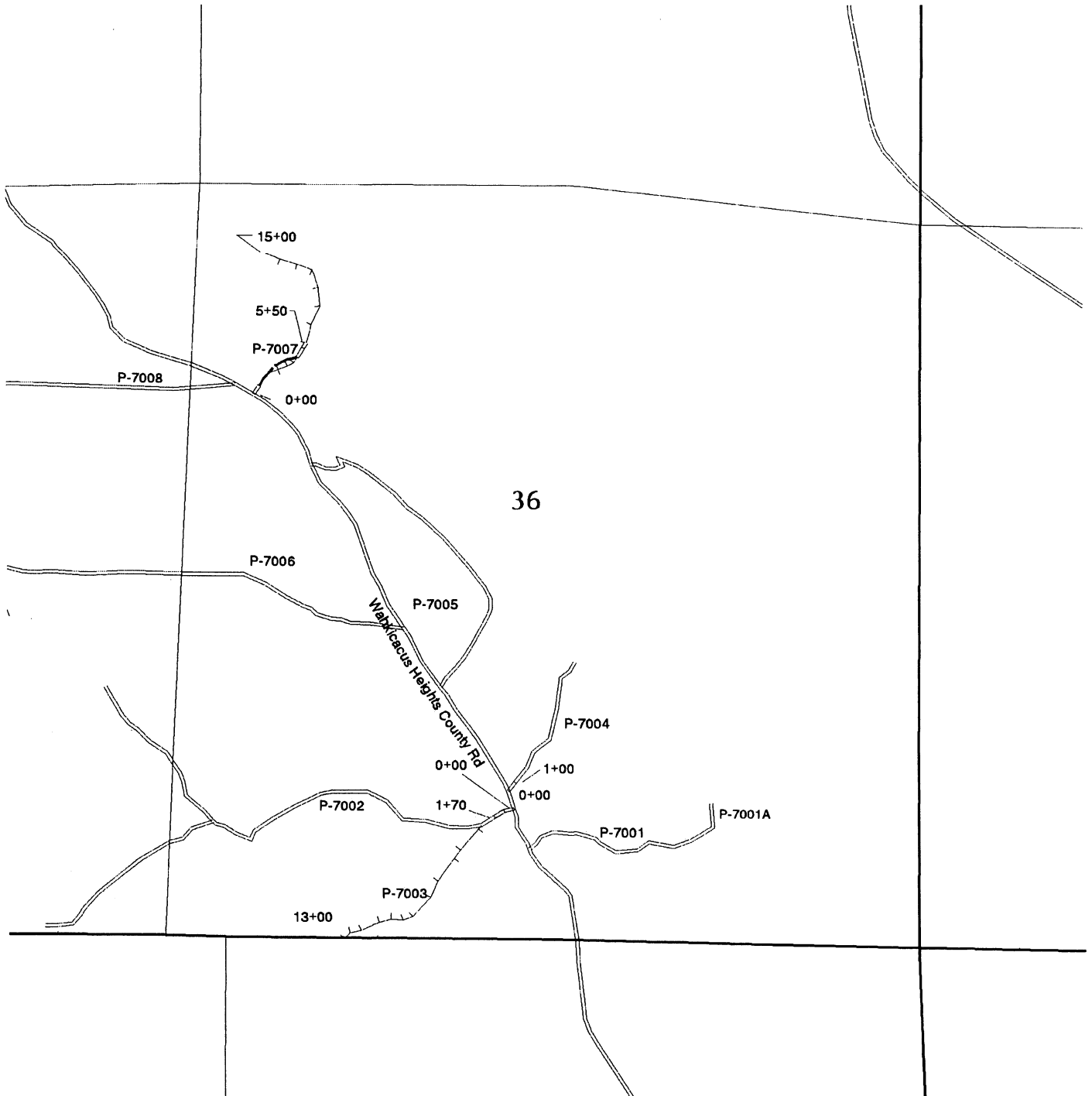
ROAD PLAN

SALE NAME: **Wahkiacus Thinning**
AGREEMENT NO.: **76130**
GRANT: **Common School**


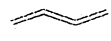


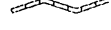
REGION: **Southeast**
COUNTY: **Klickitat**



Township 05 North Range 13 East, W.M.



SCALE IN MILES

-  County Road
-  Existing Road
-  Required Abandonment
-  Required Construction
-  Required Reconstruction

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
DOUG SUTHERLAND, COMMISSIONER OF PUBLIC LANDS

WAHKIACUS HEIGHTS THINNING TIMBER SALE ROAD PLAN
SECTION 36 , TOWNSHIP 5 NORTH, RANGE 13 EAST, W.M.
KLICKTIAT COUNTY

AGREEMENT NO.: 30-076130

DATE: SEPTEMBER 3, 2004

SECTION 0 - SCOPE OF PROJECT

This project includes but is not limited to construction including:

- clearing;
- grubbing;
- right of way debris disposal;
- excavation and/or embankment to subgrade;
- installing rolling dips and water bars;
- constructing ditches;
- acquisition, manufacture and application of rock;
- road abandonment.

This project includes, but is not limited to reconstruction including:

- brushing right of way;
- clearing existing excavation and embankment slopes;
- grubbing existing excavation and embankment slopes;
- right of way debris disposal;
- constructing ditches;
- widening road segments;
- grading and shaping existing road surface and turnouts;
- acquisition and application of rock;
- road abandonment.

This project also includes but is not limited to abandonment including:

- ripping of road surface;
- construction of undrivable waterbars;
- construction of earth barricades;
- placing of slash on road surface.

SECTION 1: GENERAL CLAUSES

SECTION 1.1: GENERAL: GENERAL CLAUSES

1.1-1

Clauses in this plan apply to all construction, reconstruction, or pre-haul maintenance including landings unless otherwise noted.

1.1-2

Wahkiacus Heights Thinning Timber Sale
Contract # 30-076130

Construction, or reconstruction, or pre-haul maintenance of the following roads is required. All roads shall be constructed or reconstructed or pre-haul maintained on the State’s location and in accordance with this Road Plan.

<u>Road</u>	<u>Station</u>	<u>Type</u>
P-7002	0+00 to 1+70	Reconstruction
P-7004	0+00 to 1+00	Reconstruction
P-7007	0+00 to 0+70	Reconstruction
P-7007	0+70 to 4+00	Construction
P-7007	4+00 to 5+50	Reconstruction

1.1-4
If the purchaser desires a road location or design change, a revised road plan shall be submitted to the State for consideration.

1.1-6
Road construction and/or reconstruction may be in close proximity above ground and/or buried utilities. All work shall be done in accordance with RCW 19.122, Underground Utilities. Purchaser is responsible for all notification and liabilities associated with the utilities and their rights-of-way. Utilities are located along the Wahkiacus Heights County Road.

1.1-9
On this plan quantities are minimum acceptable values. Additional quantities required by the State because of hidden conditions or Purchaser’s choice of construction season or techniques shall be at the Purchaser’s expense. Hidden conditions include, but are not limited to: solid subsurface rock subsurface springs, saturated ground, and unstable soil.

SECTION 1.2 - GENERAL: CONSTRUCTION CONSTRAINTS

1.2-1
The construction or reconstruction of any roads specified herein shall not be permitted between November 1st and April 30th unless authority to do so is granted, in writing, by the Contract Administrator.

1.2-2
Purchaser shall not use roads constructed, reconstructed or maintained under this Road Plan for hauling, other than timber cut on the right of way, without written approval from the Contract Administrator.

SECTION 1.2.1 - GENERAL: CONSTRUCTION CONSTRAINTS:
CONSTRUCTION SEQUENCE

1.2.1-1
Pioneering shall not extend past construction that will be completed during the current construction season. Drainage shall be provided on all uncompleted construction as approved, in writing, by the Contract Administrator.

Clearing and grubbing shall be completed prior to starting excavation and embankment.

Rolling dips shall be installed in completed subgrade as construction progresses.

Subgrade, ditches and rolling dips installation shall be completed and are subject to written approval by the Contract Administrator prior to rock application.

SECTION 1.3 - GENERAL: HAULING CONSTRAINTS

- 1.3-1 Rock hauling shall not be permitted between November 1st and April 30th unless authorized, in writing, by the Contract Administrator.
- 1.3-2 Timber haul shall not be permitted between November 1st and April 30th unless authorized, in writing, by the Contract Administrator.

SECTION 1.5 - GENERAL: ROAD MAINTENANCE

- 1.5-1 Maintenance on the following roads shall be performed in accordance with Purchaser Road Maintenance Specifications.

<u>Road</u>	<u>Stations</u>
P-7001	0+00 to 15+00
P-7001A	0+00 to 2+00
P-7002	0+00 to 30+00
P-7004	0+00 to 12+00
P-7005	0+00 to 5+00
P-7007	0+00 to 5+50

- 1.5-2 Per Clause C-60, maintenance on the following roads shall be performed by designated maintainer. Designated maintainer shall be selected by the Contract Administrator.

<u>Road</u>	<u>Station</u>
P-7006	0+00 to 16+00
P-7008	0+00 to 5+00
P-7200	0+00 to 20+00
P-7210	0+00 to 72+50

- 1.5-3 Snowplowing shall not be permitted unless authorized, in writing, by the Contract Administrator.

- 1.5-4 At termination of haul final maintenance shall be performed on the following roads. At minimum, final maintenance shall consist of blading the road with a motor grader, removing berms, crowning or outsloping the road as specified in the Typical Section Sheet and/or Clause 6.1-1, reshaping rolling dips and/or water bars to specification, pulling ditches and cleaning culvert inlets and outlets. The finished road surface shall drain freely and shall be smooth, firm and free of chuckholes.

<u>Road</u>	<u>Stations</u>
P-7001	0+00 to 15+00
P-7001A	0+00 to 2+00
P-7002	0+00 to 30+00
P-7004	0+00 to 12+00
P-7005	0+00 to 5+00
P-7007	0+00 to 5+50

SECTION 2 - CLEARING

SECTION 2.1 - R/W TIMBER

2.1-1

Fell all vegetative material larger than 2 inches dbh or over 4 feet high between the clearing limits specified on the Typical Section Sheet.

SECTION 3 - GRUBBING

SECTION 3.1- GRUBBING: GENERAL

3.1-1

All stumps shall be removed that fall between grubbing limits shown on the Typical Section Sheet. Those with undercut roots shall be removed.

3.1-2

Grubbing limits are defined as the entire area between the external limits shown on the Typical Section Sheet.

SECTION 4 - DEBRIS DISPOSAL AND REMOVAL

SECTION 4.1 - DEBRIS DISPOSAL AND REMOVAL: GENERAL

4.1-1

Right-of-way debris is defined as all non-merchantable vegetative material larger than one cubic foot in volume, within the grubbing limits.

SECTION 4.2 - DEBRIS DISPOSAL AND REMOVAL: PLACEMENT

4.2-1

Right-of-way debris shall be scattered.

4.2-2

Right-of-way debris shall not be placed against standing timber.

SECTION 5 - EXCAVATION

SECTION 5.1 - EXCAVATION: GENERAL

5.1-1

Unless controlled by construction stakes or specific design sheets herein, roads shall be constructed in accordance with dimensions shown on the Typical Section Sheet.

5.1-2

Purchaser shall not bury merchantable material.

5.1-3

Road grade and alignment shall conform to the State's marked location and drawings. Grade and alignment shall have smooth continuity without abrupt changes in direction. Maximum grades are: 18 percent favorable and 15 percent adverse or as specified on

drawings. Minimum curve radius is 70 feet.

5.1-4

Except as designated on the curve widening list, extra widening on the inside of curves shall be as indicated below.

2 feet extra	80 to 100 foot radius curves.
4 feet extra	50 to 79 foot radius curves.

5.1-7

Roads shall be constructed or reconstructed to the dimensions shown on the Typical Section Sheet, within the tolerance listed below. Tolerance classes for each road are listed on the Typical Section Sheet.

Tolerance Class	A	B	C
Road Width (feet)	+1.5	+1.5	+2.0
Subgrade elevation (feet+/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0

5.1-8

Excavation slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>
Common Earth (on side slopes of 55%).....	1:1
Common Earth (55% to 70% sideslopes).....	¾:1
Common Earth (on slopes over 70%).....	½:1
Fractured or loose rock.....	½:1
Hardpan or Solid rock.....	¼:1

5.1-8D

On the following road, Purchaser shall construct ditches. Ditch material shall be used to build up the subgrade as shown on the Typical Section Sheet.

<u>Road</u>	<u>Stations</u>
P-7002	0+00 to 1+70
P-7004	0+00 to 1+00
P-7007	0+00 to 5+50

5.1-9

Excavation and embankment slopes shall be constructed to a uniform line and left rough for easier revegetation.

5.1-10

Except as construction staked or designed. Embankments shall be widened as follows:

<u>Height at Centerline</u>	<u>Subgrade Widening</u>
Less than 6 feet.....	2 feet
6 feet or over.....	4 feet

5.1-11

Embankment slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>
Common Earth and rounded gravel	1-1/2:1
Angular rock	1-1/4:1
Sandy soil	2:1

5.1-12

Organic material shall be excluded from the embankment.

5.1-14

Waste material may be deposited adjacent to the road prism on side slopes up to 55 percent if the waste material is compacted and more than 100 feet away from live streams. On side slopes of 55 percent or more, all excavation shall be end hauled or pushed to designated embankment sites. All waste embankments shall be compacted in horizontal layers not exceeding 2 feet.

5.1-21

Waste material shall not be deposited within 50 feet of a cross drain culvert installation.

SECTION 5.2 - EXCAVATION: PIONEER ROADS

5.2-1

Road pioneering operations shall not undercut the final cut slope, deposit excavated material outside the clearing limits or restrict drainage.

SECTION 5.3 - EXCAVATION: COMPACTION

5.3-1

All embankment and waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts. Sidehill embankments too narrow to accommodate excavation equipment may be placed by end dumping or side casting until sufficiently wide to support the equipment.

SECTION 5.4 - EXCAVATION: SEDIMENTATION

5.4-1

Sediment bearing runoff shall not be permitted to enter into streams.

SECTION 5.5 - EXCAVATION: SUBGRADE COMPACTION

5.5-1

Finished subgrade shall be shaped as specified in Clause 6.1-1 and as shown on the Typical Section Sheet. Surface shall be graded and compacted to a uniform, firm, rut-free surface to ensure runoff in an even, unconcentrated manner.

SECTION 6 - DRAINAGE

SECTION 6.1 - DRAINAGE: SURFACE DRAINAGE

6.1-1

On the following roads, surfaces shall be shaped to augment the escape of surface runoff.

<u>Road</u>	<u>Stations</u>	<u>Shape of Road Surface</u>
P-7002	0+00 to 1+70	Crown 4 inches at centerline
P-7004	0+00 to 1+00	Outslope 4 inches in 10 feet
P-7007	0+00 to 5+50	Crown 4 inches at centerline

6.1-2

Berms shall be removed from road shoulders to permit escape of runoff.

SECTION 6.3 - DRAINAGE: DITCHES

6.3-1

Ditches shall be constructed in accordance with dimensions shown on the Typical Section Sheet and shall drain freely to culverts, rolling dips and ditchouts.

6.3-6

The Purchaser shall construct the ditches. Work shall be completed prior to grading, and compaction, and application of rock and/or timber haul and shall be done in accordance with the Typical Section Sheet.

SECTION 6.7: DRAINAGE: ROLLING DIPS

6.7-1

On the following roads rolling dips shall be constructed in accordance with the Rolling Dip Detail sheet at locations as specified on the Rolling Dip List. **ROLLING DIPS SHALL BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE CONTINUOUSLY MAINTAINED IN AN OPERABLE CONDITION.** Rolling dips shall be installed with a crawler tractor. Use of other equipment shall not be permitted without prior written approval of the Contract Administrator.

<u>Road</u>	<u>Stations</u>
P-7002	0+70
P-7002	1+70
P-7004	1+00
P-7007	0+70
P-7007	4+00

SECTION 7 - ROCK

SECTION 7.1 - ROCK SOURCE

7.1-1

Wahkiacus Heights Thinning Timber Sale
Contract # 30-076130

Rock for construction and/or reconstruction under this contract may be obtained from an existing pit on State land in the NW¼ of the NE¼ of Section 23, Township 5 North, Range 13 East at no charge to the purchaser. Development and use shall be in accordance with a written "Pit Development and Reclamation Plan" prepared by the Purchaser and subject to written approval by the Contract Administrator prior to any pit development or use. Pit operations shall be conducted as directed by the Contract Administrator and in accordance with the approved development plan. Upon completion of pit operations, the pit shall be left in the condition specified in the plans and subject to written approval by the contract administrator. Request of use of material from any other source shall be submitted, in writing, to the Southeast Region Engineer or their designee, for consideration.

SECTION 7.2 - ROCK: MANUFACTURE

SECTION 7.2-1 - ROCK: MANUFACTURE: SPECIFICATIONS

7.2.1-8

Pit run rock shall not contain vegetative trash or vegetative debris, and shall not contain more than 10% dirt.

SECTION 7.2.2 - ROCK: MANUFACTURE: MEASUREMENT

7.2.2-1

Measurement of the pit run rock shall be on a cubic-yard-truck measure basis. The Contract Administrator shall measure each truck prior to rock hauling. The Contract Administrator shall periodically require that a load be flattened off and its volume calculated. An average of such volumes for each truck shall be used to tally the volume hauled. The purchaser shall provide and maintain load tally sheets for each truck and shall give them to the contract administrator.

SECTION 7.4 - ROCK: APPLICATION

SECTION 7.4.2 - ROCK: APPLICATION: PLACEMENT

7.4.2-1

Apply at least the minimum required rock quantity as shown on the Typical Section Sheet.

7.4.2-2

Subgrade shall be subject to approval, in writing, by the Contract Administrator prior to application of rock.

7.4.2-7

Turnouts and curve widening shall have rock applied to the same depth and specifications as the traveled way.

7.4.2-8

Each lift of rock shall be shaped as specified in Clause 6.1-1 and shall be uniform, firm, and rut-free to ensure surface runoff in an even, unconcentrated manner.

SECTION 7.4.3 - ROCK: APPLICATION: COMPACTION

7.4.3-2

Rock shall be spread and shaped with a motor grader concurrently with rock hauling operations. Rock shall be compacted with loaded rock trucks.

SECTION 8 - STRUCTURES

SECTION 8.1 - STRUCTURES: SIGNS

8.1-2

The Purchaser shall be responsible for the purchase and installation of the following road signs. Signs shall comply with the U.S. Department of Transportation, Federal Highway Administration's "Standard Highway Signs" manual.

<u>Road</u>	<u>Station</u>	<u>Sign</u>
P-7000	¼ mile each side of sale	Log Trucks Ahead

2 signs total

SECTION 10 - ROAD AND LANDING CLOSURES/ABANDONMENT

SECTION 10.1 - ROAD ABANDONMENT

10.1-1

- On the following roads, abandonment shall consist of:
- constructing undrivable water bars in conformance with the attached "Undrivable Water Bar Detail" at a spacing which will produce a vertical drop of no more than 30 feet between water bars and with a maximum spacing of 300 feet;
 - skewing water bars at least 30 degrees from perpendicular on roads in excess of 3 percent grade;
 - covering road with logging and right-of-way slash where possible.

<u>Road</u>	<u>Stations</u>
P-7003	0+00 to 13+00
P-7007	0+70 to 4+00 old road
P-7007	5+50 to 15+00

10.1-1a

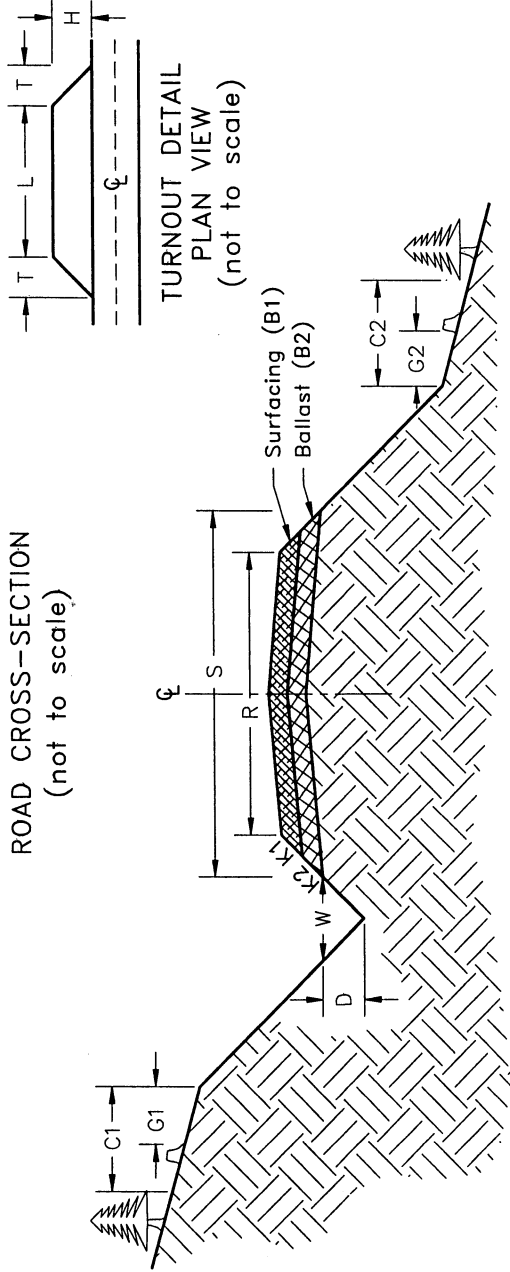
Roads shall be abandoned by the Purchaser prior to the termination of this contract.

10.1-2

On the following road, an earth barricade shall be constructed in accordance with the Earth Barricade Detail sheet.

<u>Road</u>	<u>Stations</u>
P-7007	5+50

ROAD CROSS-SECTION
(not to scale)



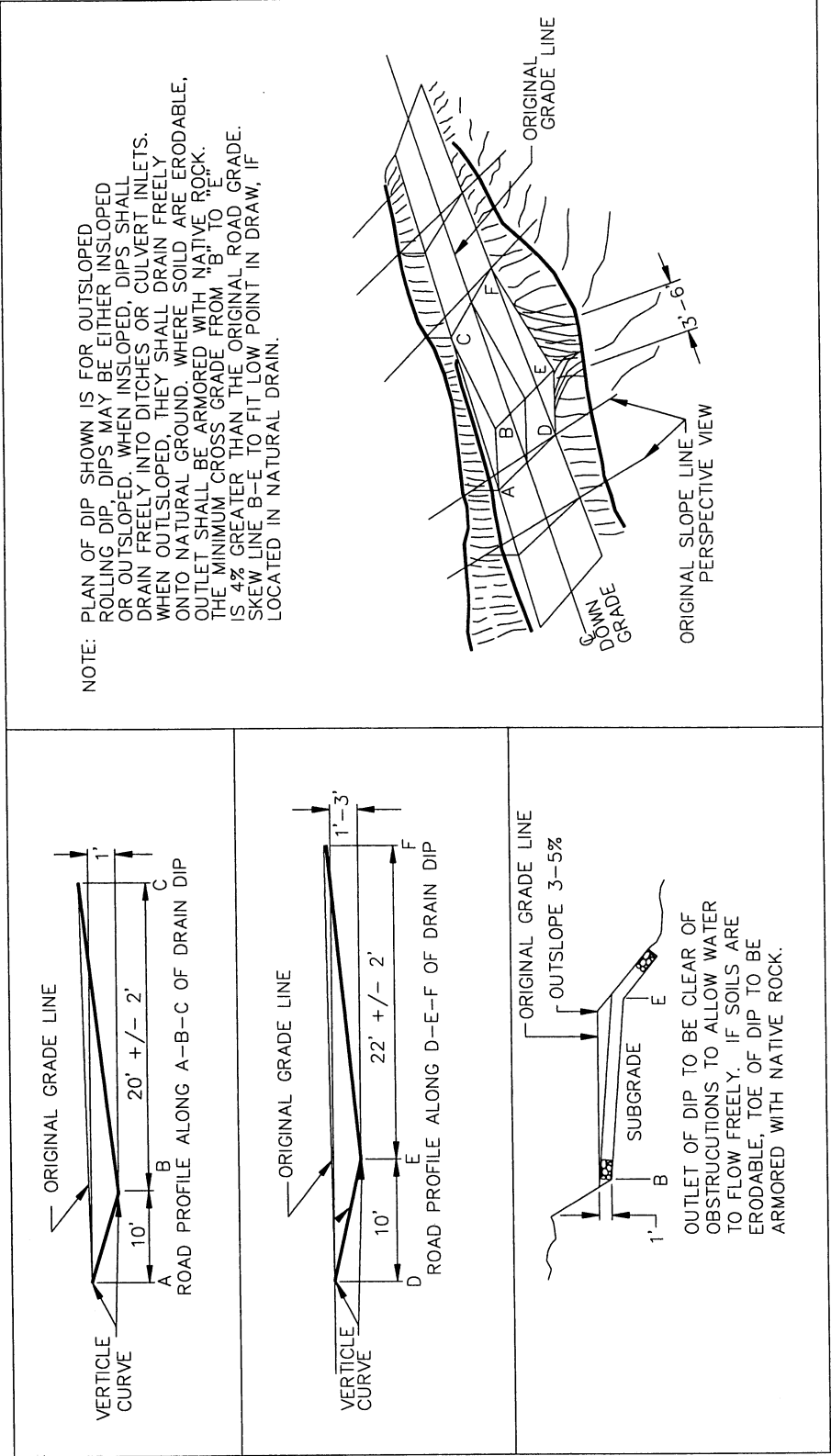
ROCK LIST

BALLAST

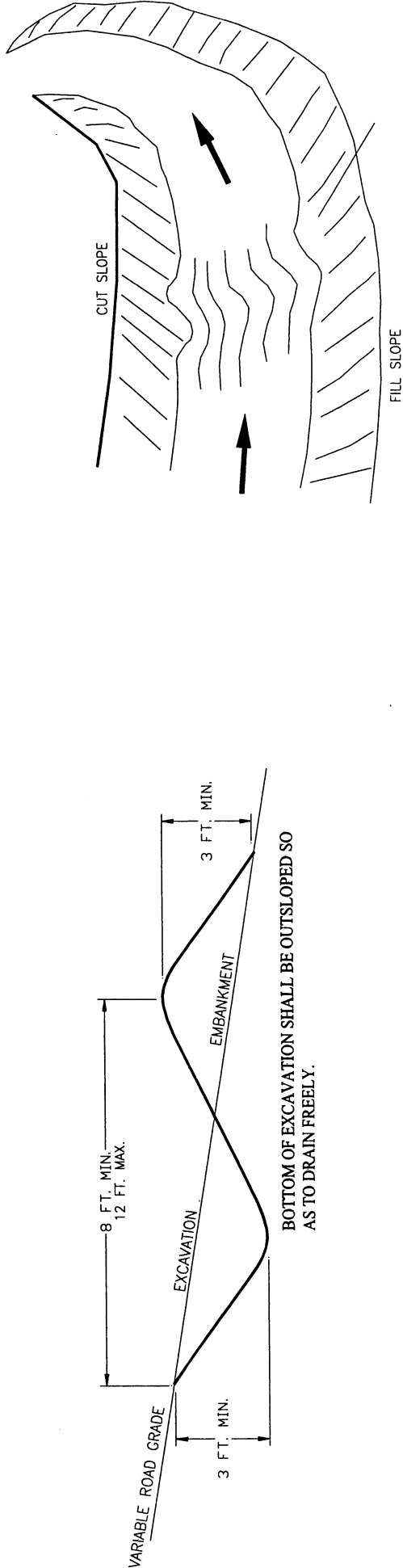
Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
P-7002	0+00	1+70	2:1	9 IN	50	1.7	85	P-7210 PIT	L	H	T
P-7004	0+00	1+00	2:1	9 IN	50	1.0	50	P-7210 PIT			
P-7007	0+00	1+70	2:1	9 IN	50	1.7	85	P-7210 PIT			

BALLAST TOTAL 220 Cubic Yards
PIT RUN ROCK ONLY

ROLLING DIP DETAIL



UNDRIVABLE WATER BAR DETAIL

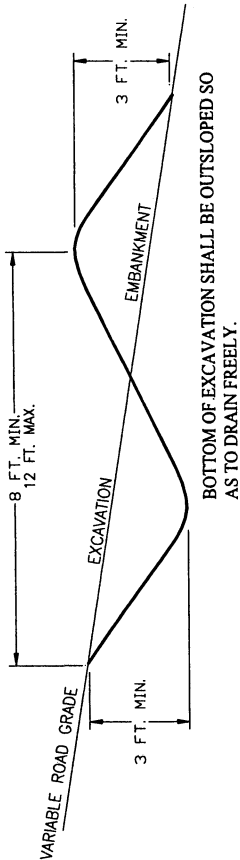


PROFILE VIEW

METHOD OF INSTALLATION

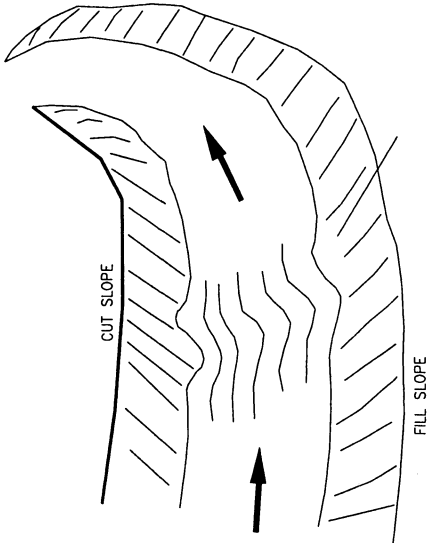
NOTE: EMBANKMENT SIDE OF UNDRIVABLE WATER BAR SHALL BE PLACED IN ON SIDE VEHICLE TRAFFIC WILL BE COMING FROM.

EARTH BARRICADE DETAIL



PROFILE VIEW

NOTE: EMBANKMENT SIDE OF EARTH BARRICADE SHALL BE PLACED IN ON SIDE VEHICLE TRAFFIC WILL BE COMING FROM.



METHOD OF INSTALLATION

ROLLING DIP LIST

<u>Road</u>	<u>L-Station</u>	<u>Remarks</u>
P-7002	0+70	Drain left in draw
P-7002	1+70	Drain left
P-7004	1+00	Drain right
P-7007	0+70	Drain right in draw
P-7007	4+00	Drain right at existing water bar

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

FOREST ACCESS ROAD
MAINTENANCE SPECIFICATIONS

A. Cuts and Fills

1. Maintain slope lines as constructed. Remove slides from the ditches and roadway. Replace fills to 1 1/2:1 slopes with selected material or as directed. Remove overhanging material from the cut slopes.
2. Material from slides or other sources requiring removal shall not be deposited in streams or at locations where it will erode into streams or water courses.
3. Undesirable slide materials and debris shall not be mixed into the surface material.

B. Surface

1. Grade and shape the road surface, turnouts, and shoulders to the original crown, inslope or outslope as directed to provide suitable traveled surface and surface water runoff in an even, unconcentrated manner.
2. Blading must not undercut the backslope at the bottom of the ditchline or cut into geotextile fabric on the road.
3. If required in writing by the SE Region Engineer, water shall be applied as necessary to abate dust.
4. Desirable surface material shall not be bladed off the roadway.
5. Replace surface material lost or worn away.
6. Remove berms except as directed by the State.
7. Barrel spread soft spots to prevent degradation of geotextile.

C. Drainage

1. Keep ditches and drainage channels at outlets and inlets of culverts clear of obstructions and functioning as intended.
2. Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This must be done even during periods of inactivity.
3. Add stable material at the outlet end of the cross drain culvert as needed to stabilize the soil.
4. Headwalls: maintain to the road shoulder level with material that will resist erosion.
5. Prevent sediment bearing surface runoff from entering live streams.

D. Structures

Repair bridges, culverts, cattle guards, fences, and other road structures to the condition required by the construction specifications.

E. End of Season

Do maintenance work to minimize damage from the elements such as blading to insure correct runoff, ditch, and culvert cleaning and water bars.

F. Debris

Remove fallen timber, limbs, and stumps from the slopes or roadway.